

Primary Smelting and Refining of Nonferrous Metal (Except Copper and Aluminum): 2002

Issued September 2004

EC02-311-331419 (RV)

2002 Economic Census

Manufacturing

Industry Series



U S C E N S U S B U R E A U

Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU



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-- Not applicable for this report.

Table 1. Historical Statistics for the Industry: 2002 and Earlier Years

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year ¹	Com- panies ²	All estab- lish- ments ³	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)
			Number ⁴	Payroll (\$1,000)	Number ⁴	Hours (1,000)	Wages (\$1,000)				
331419, Primary smelting and refining of nonferrous metal (except copper and aluminum)											
2002..	153	170	7 561	359 290	4 886	10 279	206 160	964 076	1 297 456	2 246 379	202 681
2001..	N	N	8 484	400 369	5 543	11 576	235 720	1 019 533	1 549 983	2 631 019	134 161
2000..	N	N	9 197	400 968	6 235	13 074	244 464	1 271 870	1 520 572	2 794 020	167 590
1999..	N	N	8 959	379 842	6 335	14 244	236 201	1 246 767	1 856 928	3 087 604	184 251
1998..	N	N	9 563	379 484	6 674	14 246	236 164	1 481 621	1 900 455	3 367 193	155 694
1997..	127	140	9 208	363 726	6 513	14 255	223 284	1 426 077	1 966 720	3 401 893	161 519

¹Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 2. Industry Statistics for Selected States: 2002

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments ²		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
331419, Primary smelting and refining of nonferrous metal (except copper and aluminum)												
United States	—	170	59	7 561	359 290	4 886	10 279	206 160	964 076	1 297 456	2 246 379	202 681
Michigan	—	6	1	446	27 783	261	537	16 385	65 675	83 841	152 460	6 283
New Jersey	—	8	4	483	22 950	237	493	12 094	43 629	50 668	95 524	1 239
New York	2	19	3	189	8 009	126	235	4 198	24 741	65 355	89 935	745
Pennsylvania	1	17	10	2 200	103 696	1 361	2 830	59 294	354 808	365 689	675 726	33 568
Tennessee	—	4	3	366	17 317	223	480	8 390	39 436	42 497	82 617	3 058

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 3. Detailed Statistics by Industry: 2002

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
331419, Primary smelting and refining of nonferrous metal (except copper and aluminum)	
Companies ¹	153
All establishments ²	170
Establishments with 1 to 19 employees	111
Establishments with 20 to 99 employees	38
Establishments with 100 employees or more	21
All employees ³	7 561
Total compensation	471 006
Annual payroll	359 290
Total fringe benefits	111 716
Production workers, average for year	4 886
Production workers on March 12	5 025
Production workers on May 12	5 069
Production workers on August 12	4 847
Production workers on November 12	4 605
Production worker hours	10 279
Production worker wages	206 160
Total cost of materials	1 297 456
Materials, parts, containers, packaging, etc., used	1 054 010
Resales	64 681
Purchased fuels	47 828
Purchased electricity	98 502
Contract work	32 435
Quantity of electricity purchased for heat and power	2 912 867
Quantity of electricity generated less sold for heat and power	1 169 115
Total value of shipments	2 246 379
Primary products value of shipments	1 949 595
Secondary products value of shipments	151 226
Total miscellaneous receipts	145 558
Value of resales	67 410
Contract receipts	62 206
Other miscellaneous receipts	15 942
Primary products specialization ratio	93
Value of primary products shipments made in all industries	2 501 791
Value of primary products shipments made in this industry	1 949 595
Value of primary products shipments made in other industries	552 196
Coverage ratio	78
Value added	964 076
Total inventories, beginning of year	402 339
Finished goods inventories	127 395
Work-in-process inventories	130 145
Materials and supplies inventories	144 799
Total inventories, end of year	429 012
Finished goods inventories	96 679
Work-in-process inventories	176 014
Materials and supplies inventories	156 319
Gross value of depreciable assets (acquisition costs) at beginning of year	1 738 263
Total capital expenditures (new and used)	202 681
Buildings and other structures (new and used)	10 561
Machinery and equipment (new and used)	192 120
Automobiles, trucks, etc., for highway use	1 275
Computers and peripheral data processing equipment	3 467
All other expenditures for machinery and equipment	187 378
Total retirements	140 980
Gross value of depreciable assets at end of year	1 799 964
Depreciation charges during year	133 735
Total rental payments	35 167
Buildings and other structures	9 341
Machinery and equipment	25 826
Total other expenses ⁴	193 833
Response coverage ratio ⁵	82
Repair and maintenance services of buildings and/or machinery ⁴	26 538
Communications services ⁴	3 826
Legal services ⁴	9 569
Accounting, auditing, and bookkeeping services ⁴	967
Advertising and promotional services ⁴	1 991
Expensed computer hardware and supplies and purchased computer services ⁴	2 535
Refuse removal (including hazardous waste) services ⁴	5 034
Management consulting and administrative services ⁴	17 092
Taxes and license fees ⁴	10 607
All other expenses ⁴	115 673

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Based on Annual Survey of Manufactures (ASM) sample data.

⁵A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 4. Industry Statistics by Employment Size: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E ¹	All establishments ²	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
331419, Primary smelting and refining of nonferrous metal (except copper and aluminum)											
All establishments	—	170	7 561	359 290	4 886	10 279	206 160	964 076	1 297 456	2 246 379	202 681
Establishments with—											
1 to 4 employees	8	76	c	D	D	D	D	D	D	D	D
5 to 9 employees	7	17	112	5 046	76	161	3 164	12 999	17 097	30 243	1 671
10 to 19 employees	6	18	267	11 176	172	339	6 326	55 953	81 686	137 891	5 377
20 to 49 employees	1	26	838	36 284	562	1 208	19 905	99 231	224 474	322 964	5 352
50 to 99 employees	—	12	862	38 587	521	1 155	17 313	78 344	127 882	208 650	3 659
100 to 249 employees	—	14	2 556	120 403	1 780	3 666	72 221	283 773	397 633	704 016	115 554
250 to 499 employees	—	6	2 052	108 930	1 163	2 514	61 934	364 007	345 062	667 091	68 109
500 to 999 employees	—	1	f	D	D	D	D	D	D	D	D
1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—
2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—
Administrative records ⁴	9	85	312	13 765	217	414	8 537	35 267	38 750	74 014	3 282

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 5. Industry Statistics by Primary Product Class Specialization: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments ¹	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ²	Payroll (\$1,000)	Number ²	Hours (1,000)	Wages (\$1,000)				
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)	170	7 561	359 290	4 886	10 279	206 160	964 076	1 297 456	2 246 379	202 681
3314193	Primary smelting and refining of zinc	11	1 368	60 789	949	1 980	37 602	111 730	248 839	363 270	29 200
3314197	Primary precious metals and precious metal alloys	14	706	29 862	438	887	13 884	102 244	222 709	324 103	9 540
331419A	All other miscellaneous primary nonferrous metals	45	4 966	245 556	3 147	6 723	140 892	686 269	762 252	1 430 651	159 647

¹Includes establishments with payroll at any time during the year.

²Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6a. **Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)	2002.. N	X	X	2 501 791
	1997.. N		X	X	3 704 645
3314193	Primary smelting and refining of zinc	2002.. N	X	X	245 001
	1997.. N		X	X	505 366
33141931	Refined primary unalloyed zinc slab and zinc-base alloy, including unalloyed dust	2002.. N	X	X	239 597
	1997.. N		X	X	505 366
3314193101	Refined primary unalloyed zinc, including all ASTM specification zinc ¹	2002.. 6	X	X	153 258
	1997.. 6		X	X	354 984
3314193111	Refined primary zinc-base alloys ²	2002.. 5	X	S	86 339
	1997.. 8		X	S	150 382
3314193Y	Primary smelting and refining of zinc, nsk	2002.. N	X	X	5 404
	1997.. N		X	X	—
3314193YV	Primary smelting and refining of zinc, nsk	2002.. N	X	X	5 404
	1997.. N		X	X	—
3314197	Primary precious metals and precious metal alloys	2002.. N	X	X	646 552
	1997.. N		X	X	707 530
33141971	Primary gold and gold alloys	2002.. N	X	X	338 853
	1997.. N		X	X	411 250
3314197101	Primary gold and gold alloys ³	2002.. 11	1 208.0	q1 248.4	338 853
	1997.. 18		q1 982.6	P1 961.6	411 250
33141972	Primary silver and silver alloys	2002.. N	X	X	178 523
	1997.. N		X	X	266 029
3314197206	Primary silver and silver alloys ⁴	2002.. 9	X	P38 194.0	178 523
	1997.. 15		X	S	266 029
33141973	Primary platinum and platinum alloys, including platinum-group metals	2002.. N	X	X	110 538
	1997.. N		X	X	30 251
3314197311	Primary platinum and platinum alloys, including platinum-group metals ⁵	2002.. 8	X	S	110 538
	1997.. 9		X	103.4	30 251
3314197Y	Primary precious metals and precious metal alloys, nsk	2002.. N	X	X	18 638
	1997.. N		X	X	—
3314197YV	Primary precious metals and precious metal alloys, nsk	2002.. N	X	X	18 638
	1997.. N		X	X	—
331419A	All other miscellaneous primary nonferrous metals	2002.. N	X	X	1 506 253
	1997.. N		X	X	N
331419A1	Primary lead smelter products not of commercial grade, produced for further refining	2002.. N	X	X	1 504 697
	1997.. N		X	X	N
331419A101	Primary lead and lead-base alloys ⁶	2002.. 9	X	X	264 748
	1997.. N		X	X	N
331419A103	Primary magnesium and magnesium-base alloys ⁷	2002.. 5	X	S	124 875
	1997.. N		X	N	N
331419A121	Primary unalloyed silicon ⁸	2002.. 8	X	X	333 258
	1997.. N		X	X	N
331419A127	Other primary unrefined nonferrous metals, including metal bearing furnace residues, zinc residues, zinc smelter products (base bullion, matte, speiss, etc.) and other metal products	2002.. 11	X	X	120 680
	1997.. N		X	X	N
331419A131	Other primary refined nonferrous metals and alloys (including nickel, tin, cadmium, antimony, cobalt, molybdenum, titanium sponge, etc.) ⁹	2002.. 26	X	X	661 136
	1997.. N		X	X	N
331419AY	All other miscellaneous primary nonferrous metals, nsk	2002.. N	X	X	1 556
	1997.. N		X	X	N
331419AYV	All other miscellaneous primary nonferrous metals, nsk	2002.. N	X	X	1 556
	1997.. N		X	X	N
331419W	Primary smelting and refining of nonferrous metal (except copper and aluminum), nsk, total	2002.. N	X	X	103 985
	1997.. N		X	X	116 194
331419WY	Primary smelting and refining of nonferrous metal (except copper and aluminum), nsk, total	2002.. N	X	X	103 985
	1997.. N		X	X	116 194
331419WYWW	Primary smelting and refining of nonferrous metal (except copper and aluminum), nsk, for nonadministrative-record establishments	2002.. N	X	X	39 389
	1997.. N		X	X	50 354
331419WYWY	Primary smelting and refining of nonferrous metal (except copper and aluminum), nsk, for administrative-record establishments	2002.. N	X	X	64 596
	1997.. N		X	X	65 840

¹This product code is primary to more than one industry. See industry 331492, product code 3314927101.

²This product code is primary to more than one industry. See industry 331492, product code 3314927206.

³This product code is primary to more than one industry. See industry 331492, product code 3314929101.

⁴This product code is primary to more than one industry. See industry 331492, product code 3314929206.

⁵This product code is primary to more than one industry. See industry 331492, product code 3314929211.

⁶This product code is primary to more than one industry. See industries 331419 and 331492, product codes 331419A103, 331419A121, 331419A131, 331492B101, 331492B208, 331492B216, 331492B221, 331492B301, and 331492B313.

⁷This product code is primary to more than one industry. See industries 331419 and 331492, product codes 331419A101, 331419A121, 331419A131, 331492B101, 331492B208, 331492B216, 331492B221, 331492B301, and 331492B313.

⁸This product code is primary to more than one industry. See industries 331419 and 331492, product codes 331419A101, 331419A103, 331419A131, 331492B101, 331492B208, 331492B216, 331492B221, 331492B301, and 331492B313.

⁹This product code is primary to more than one industry. See industries 331419 and 331492, product codes 331419A101, 331419A103, 331419A121, 331492B101, 331492B208, 331492B216, 331492B221, 331492B301, and 331492B313.

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p—10 to 19 percent estimated; q—20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6b. **Product Class Shipments for Selected States: 2002 and 1997**

[Not applicable for this report.]

Table 7. Materials Consumed by Kind: 2002 and 1997

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
331419	Primary smelting and refining of nonferrous metal (except copper and aluminum)		
00900001	Total materials .....2002..	X	1 054 010
	.....1997..	X	1 661 207
33141103	Refined unalloyed copper (cathodes, ingots, cakes, slabs, etc.), including blister and anode copper .....1,000 s tons ..2002..	D	D
	.....1997..	D	D
33149105	Zinc and zinc-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....1,000 s tons ..2002..	48.3	39 594
	.....1997..	92.8	79 715
33141938	Tin shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	D
	.....1997..	X	N
33141902	Precious metals and precious metal alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	177 322
	.....1997..	X	N
33141928	All other nonferrous metal shapes and forms (excluding refined unalloyed copper, precious metal, tin, and zinc castings, forgings, and fabricated metal products) .....2002..	X	47 043
	.....1997..	X	N
21223400	Mining copper ores, concentrates and precipitates (gross weight) .....1,000 s tons ..2002..	D	D
	.....1997..	D	D
21220016	All other nonferrous metal ores and concentrates, including precious metal ores and concentrates (excluding copper ores, concentrates, and precipitates) .....2002..	X	221 640
	.....1997..	X	N
00190051	Precious metal and precious metal alloy scrap .....2002..	X	D
	.....1997..	X	61 535
00190057	All other nonferrous metal and metal-base alloy scrap (including aluminum and aluminum-base alloy, copper and copper-base alloy, lead and lead-base alloy, zinc and zinc-base alloy, and tinplate) .....2002..	X	135 442
	.....1997..	X	N
00970099	All other materials and components, parts, containers, and supplies .....2002..	X	209 237
	.....1997..	X	N
00971000	Materials, ingredients, containers, and supplies, nsk .....2002..	X	62 505
	.....1997..	X	44 832

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.